

Notice of Allowability

Application No.

10/784,050

Examiner

Jerry Martin Blevins

Applicant(s)

EDWARDS ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the application filed 2/20/2004
2. ☒ The allowed claim(s) is/are 1-16.
3. ☒ The drawings filed on 2/20/04 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date 042805.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
- ☐ Examiner's Amendment/Comment
- ☒ Examiner's Statement of Reasons for Allowance
- ☐ Other _____


Brian Healy
Primary Examiner

DETAILED ACTION

Drawings

New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the drawings are informally drawn. The applicants are advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Allowable Subject Matter

Claims 1-16 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claims 1-10, the closest prior art reference, US Pre Grant Publication of Leedy, number 2002/0045297, teaches an optoelectronic subassembly for optoelectronic modules. Leedy teaches that the subassembly comprises a supporting substrate with a mounting and an opposed surface. Leedy teaches that the subassembly also comprises an optoelectronic device mounted on the mounting surface. Leedy also teaches that the subassembly comprises a supporting structure including a mounting surface. Leedy also teaches at least three offset arms including electrical connections with one end mounted to the mounting surface of the supporting substrate and with the other end mounted to the mounting surface of the supporting

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structure. Leedy also teaches that the optoelectronic device includes electrical connections and at least some of the arms are coupled to the electrical connections. Leedy also teaches that the arms are coupled to input and output pads on the surface of the supporting substrate. Leedy also teaches that the supporting structure includes a trench and that the arms mount the supporting substrate suspended in the trench.

However, Leedy does not teach that the at least three arms include two offset and substantially parallel mounting surfaces with a deformable linking material therebetween that allows for small changes in the angle between the parallel surfaces. US Pre Grant Publication of Laor, number 2002/0009270 teaches an optoelectronic subassembly comprising at least three arms, each of which include two offset and substantially parallel surfaces with a linking portion therebetween that provides an angle between the parallel surfaces. However, the linking material taught by Laor is an optical fiber. Although an optical fiber inherently manifests some degree of flexibility, the fiber taught by Laor is primarily used for optical coupling purposes and not for mounting. US Pre Grant Publication of Hopkin et al, number 2002/0094185 teaches as optical mount for mounting an optical fiber which includes at least three mounting arms. The arms taught by Hopkin are described as deformable springs, which allow for small changes in angle. However, the arms taught by Hopkin do not include the two parallel surfaces and linking portion assembly. Furthermore, the purpose for the deformable arms taught by Hopkin is to allow for tighter mounting and not for alignment at an interval of angles.

In light of the above justification, Leedy, either alone or in combination with the other art of record, does not disclose or render obvious the teaching of the at least three

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offset arms including substantially parallel mounting surfaces with a deformable linking material therebetween that allows for small changes in the angle between the parallel surfaces. Since this limitation is carried in both of the independent claims, 1 and 7, it is carried through all of the claims, 1-10, rendering claims 1-10 allowable.

Regarding claims 11-13, Leedy teaches the provision of the structure mentioned above. Leedy also teaches that the provided supporting structure includes an optical lens assembly. Leedy also teaches that the arms are mounted to the support structure with the optoelectronic device roughly in alignment with the optical lens assembly. Leedy also teaches the formation of the above trench and the actual connection of the electrical connections. However, as indicated above, Leedy, either alone or in combination with the other prior art of record, does not disclose or render obvious the teaching of the provision of at least three offset arms including substantially parallel mounting surfaces with a deformable linking material therebetween that allows for small changes in the angle between the parallel surfaces. Furthermore, Leedy, either alone or in combination with the other prior art of record, does not disclose or render obvious the teaching of deforming the linking portion of the arms in order to move the device into optical alignment with the lens assembly. Since these limitations are carried in the independent claim 11, claims 12 and 13 are also allowable.

Regarding claims 14-16, Leedy teaches the provision of the above mentioned structure. However, Leedy, either alone or in combination with the other prior art of record, does not disclose or render obvious the teaching of the mounting and aligning procedure claimed in claim 14. Particularly, Leedy does not teach the placement of a

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semi-liquid adhesive on the supporting structure, the application of a force to the supporting substrate to achieve optical alignment, and the allowance of the adhesive to cure once alignment has been achieved. Furthermore, Leedy does not teach the further limitations of claims 15 and 16.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent to Crow et al, number 6,177,289

US Patent to Shaw et al, number 6,456,766

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Martin Blevins whose telephone number is 571-272-8581. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached at 571-272-2415. The fax number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMB

A handwritten signature in black ink, appearing to read "Brian Healy", with a stylized flourish at the end.

Brian Healy
Primary Examiner